Application No.: 09/284,107 Docket No.: 313632000600

AMENDMENTS TO THE CLAIMS

Claims 1-20 (canceled)

Claim 21 (currently amended): A method for obtaining the isolated nucleotide sequence of a polypeptide capable of binding to a specific oligopeptide from a target protein or a subregion thereof, said method comprising:

- a) displaying a library of polypeptides on the surfaces of replicable display packages, wherein the polypeptides are antibodies or antigen binding fragments thereof;
- b) synthesizing a set of overlapping or nonoverlapping oligopeptides derived from the target protein or subregion thereof, on individual solid phases;
- c) contacting the library of polypeptides on the surface of the packages with the set of oligopeptides;
 - d) removing unbound packages by washing;
 - e) isolating the packages specific for individual oligopeptides; and
- f) amplifying the polypeptide encoding nucleotide sequences within propagating the isolated packages, thereby obtaining the nucleotide sequence of the polypeptide capable of binding to the specific oligopeptide of the target protein.

Claim 22 (previously presented): The method of claim 21, wherein the polypeptides are selected from the group consisting of an immunoglobulin heavy chain, an immunoglobulin light chain, a heavy-light chain pair, a single chain antibody fragment, a VH, a VL, a Fab, a Fv, a single chain Fv (scFv) or a di-sulfide-bridged Fv.

Claim 23 (previously presented): The method of claim 22, wherein the polypeptide is a single chain antibody fragment.

Claim 24 (previously presented): The method of claim 22, wherein the polypeptide is a scFv.

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Claim 25 (previously presented): The method of claim 21, wherein the set of oligopeptides is synthesized using pepscan technology.

Claim 26 (previously presented): The method of claim 21, wherein the oligopeptides are 8-20 amino acid residues.

Claim 27 (previously presented): The method of claim 21, wherein the replicable display packages are phage particles.

Claim 28 (previously presented): The method of claim 21, wherein the package is a bacterium, a yeast or a spore of a microorganism.

Claim 29 (previously presented): The method of claim 27, wherein the polypeptide is displayed on the surface of the phage particle by insertion of a genetic sequence encoding the polypeptide in a gene encoding a surface protein of the phage particle.

Claim 30 (previously presented): The method of claim 27, wherein the library of polypeptides is a synthetic antibody phage display library.

Claim 31 (previously presented): The method of claim 21, wherein the oligopeptides are linear or non-linear.

Claim 32 (canceled)

Claim 33 (previously presented): The method of claim 21, wherein the solid support is a polyethylene rod, a membranous filter, or a bead.

Claim 34 (previously presented): The method of claim 21, further comprising repeating step (c) followed by step (d) one or more times after step (d).

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Claim 35 (previously presented): The method of claim 21, further comprising the steps of:

(i) contacting the library of polypeptides with a sample not containing the target protein or subregion thereof used to derive the set of oligopeptides, and

(ii) removing bound packages from the library of polypeptides.

Claim 36 (previously presented): The method of claim 35, wherein steps (i) and (ii) are performed after step (c).

Claim 37 (previously presented): The method of claim 35, wherein steps (i) and (ii) are performed after step (e).

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